

## BEST PRACTICES 11/98

### 1. Describe the practice...

Our school has a school to business partnership with a medical supply company. Twelve high school students applied to and were accepted to this program; six students were chosen from marketing classes and six from science classes.

Researchers and marketing experts from the company select an interdisciplinary problem for students to investigate; they mentor students in medical, research and development, marketing and finance aspects of the problem. Last year the students developed a portable blood pressure device, and this year they will develop an electronic ovulation detecting device. The marketing students ascertain the size of the market and target groups; they also determine ways to promote and distribute the product in the marketplace. The medical group investigates the ovulation process, studies Federal regulations governing their product and plans clinical trials. The research and development group uses information from the other groups to design a safe product with specific features at a determined cost. The finance team determines the potential profitability of the product by reviewing taxes as well as production and marketing costs. All four groups interact to share information in this interdisciplinary project.

A preliminary report is presented to and evaluated by the mentors at the company. The student teams take the mentors' recommendations and suggestions and finalize the project. Students do a formal Power Point presentation at the company to company officials, parents, administrators and board of education members.

#### Objectives:

1. Students will research and solve a real problem.
2. Students will investigate different careers.
3. Students will improve teamwork skills.
4. Students will improve/expand technology skills.
5. Students will improve oral and written communications skills.
6. Students will develop an understanding of how businesses function.

This innovative school/business partnership lets students learn through experience. The medical/drug industry plays a major role in employment in New Jersey, and many students may work in this industry in the near future. High school students know very little about the workings of a large company, and even less about the array of jobs in a typical firm. This project provides a window into the work force. Students learn to make Power Point presentations as a side benefit, in order to create a professional, polished, formal product. Evaluations from company specialists spur the students to be thorough in every aspect of this project, and students feel a sense of accomplishment when the project is completed.

To replicate this program, an educator can contact a local business to form a school/business partnership. The educator and representatives from the business can develop a identify a problem related to the business for students to solve. Throughout New Jersey students could have real workplace experiences while investigating a local business and its unique products. School and business mentors work together to help the participants reach their goals, while company officials and workers become familiar with the resources and abilities of local students.

## **2. Describe the educational needs.....**

Students need to relate schoolwork to the real world outside school. Pupils sometimes ask, "Why do I have to learn this?" or "When will I ever use this again?" By providing real workplace experiences, educators can make school more meaningful for all students. International businesses involve teamwork, so for our students to compete successfully in the future, they must be able to work together, contributing their share to a project. In too many schools subjects are taught in isolated disciplines, with no connections between math, science, English, marketing, history and world languages. In a real workplace situation, there are no barriers between disciplines, so in this interdisciplinary project, students see connections. The use of state-of-the-art technology is necessary in competitive businesses; students learn how to use technology to produce a professional product. Students strengthen their interpersonal and communication skills as they share information, analyze data, draw conclusions, and present their findings and opinions in a formal presentation.

### **Cross-Content Workplace Readiness Standards 1,2,3,4,5**

The students experience different careers through this project. They learn the employability skills of dependability, promptness, relying on others, interpersonal communication as they work as a team. Students understand the importance of academic knowledge and occupational skills needed in the world of work. The participants use the Internet to do research in all four areas; they use search engines, and they also prepare and place surveys on the web. All students use word-processing, spreadsheets, and database programs in this project, and they learn Power Point to prepare their final formal presentation.

The students are given a problem to solve which they do through organizing, synthesizing, and evaluating the information. Students interpret and analyze their data to draw conclusions, continually evaluating the work of each group. They must produce a marketable product with desirable features at a cost that will be profitable; they experience all the critical thinking steps that are involved in production. The students set short and long term goals, and learn to use their time efficiently to meet deadlines. Safety principles related to the project will be learned through the students' research and through communication with their mentors.

### **Language Arts Literacy Standards - 3.1, 3.3**

Students will learn to speak to different audiences communicating a solution to a real problem. They will write clear, concise, and organized proposals to share with their audiences.

### **Science Standards - 5.1, 5.2 , 5.4 , 5.6**

Students study a female hormonal feedback loop in this project; they must understand how hormones control cellular activities. From Internet research and discussions with physicians, students design a product that uses this knowledge. They must evaluate conclusions, weigh evidence, and act on their findings; they use problem-solving skills. They must communicate their findings in a precise and thorough manner. The students will develop an understanding of how technology is influenced by scientific knowledge, because as they do increasing research, they must use their findings to improve their product. Since common ovulation detection devices use graphing programs, students will study graphs and determine how precise their device must be.

### **3. Document the assessment measures.....**

**Objective 1: Students will learn how to research and solve a real problem.**

**Assessment:** The final product design, clinical tests, marketing research studies and plans for product promotion, as well as the financial analysis on the profitability of the proposed product and its plans will be evaluated by business executives on two occasions. After both evaluations, students will be expected to improve their work for a final presentation.

**Objective 2: Students will investigate different careers.**

**Assessment:** After the project is completed, students will be asked to evaluate their experience, and they will be asked if they think this career choice is a viable one for them.

**Objective 3: Students will improve teamwork skills.**

**Assessment:** Students will rate each other on their contributions to the project for both task and process elements. They also will be asked to write a short essay on teamwork skills they feel they developed while working on this project. Additionally, teachers will evaluate the students with regard to their teamwork skills during meetings and provide immediate feedback on areas that need improvement.

**Objective 4: Students will improve/expand technology skills.**

**Assessment:** Students will use the Internet, spreadsheets, word processing and Power Point presentations for this project; all students will improve to a level acceptable in industry.

**Objective 5: Students will improve oral and written communication skills.**

**Assessment:** During the three times students make presentations to the business executives, teacher/mentors will evaluate each student's voice quality, posture, enthusiasm, knowledge, and overall continuity of thought.

**Objective 6: Students will develop an understanding of how businesses function.**

**Assessment:** At the end of the experience, students will be asked to write an essay summarizing what they learned from their experience; they will include specifics about functions they performed as well as the general operations of a major company. Teacher mentors will evaluate those essays on a scale of 1-10, with 10 being "learned a lot" to 1 being "learned very little." Students will also be asked to complete a questionnaire that addresses the business functions they studied. Business executives will evaluate the students' final presentation on the same basis.